		Pushing the Env	/elope				
		1997 Mathema					
Learning Standards							
Illinois Mathematics							
Grades 4-5	_						
Activity/Lesson	State	Standards					
Types of Engines (pgs. 11-23)	IL	MA.4-5.7.A.2a	Measure and compare quantities using appropriate units, instruments and methods. Calculate, compare and convert length, perimeter, area, weight/mass and volume within the customary and metric systems.				
Chemistry (pgs. 25-41)	IL	MA.4-5.7.A.2a	Measure and compare quantities using appropriate units, instruments and methods. Calculate, compare and convert length, perimeter, area, weight/mass and volume within the customary and metric systems.				
Physics and Math (pgs. 43-63)	IL	MA.4-5.6.D.2	Describe the relationship between two sets of data using ratios and appropriate notations (e.g., a/b, a to b, a:b). Describe numerical relationships using variables				
Physics and Math (pgs. 43-63)	IL	MA.4-5.8.A.2b	and patterns. Construct and solve number sentences using a variable to represent an unknown quantity.				
		Pushing the Env	/elone				
		1997 Mathema					
		Learning Stand					
Illinois Mathematics							
Grades 6-8							
Activity/Lesson	State	Standards					
History of Aviation Propulsion (pgs. 5-9)	IL	MA.6-8.7.A.3b	Measure and compare quantities using appropriate units, instruments and methods. Apply the concepts and attributes of length, capacity, weight/mass, perimeter, area, volume, time, temperature and angle measures in practical situations.				
Types of Engines (pgs. 11-23)	IL	MA.6-8.7.A.3a	Measure and compare quantities using appropriate units, instruments and methods. Measure length, capacity, weight/mass and angles using sophisticated instruments (e.g., compass, protractor, trundle wheel).				
Types of Engines (pgs. 11-23)	IL	MA.6-8.7.A.3b	Measure and compare quantities using appropriate units, instruments and methods. Apply the concepts and attributes of length, capacity, weight/mass, perimeter, area, volume, time, temperature and angle measures in practical situations.				
Types of Engines (pgs. 11-23)	IL	MA.6-8.8.D.3b	Use algebraic concepts and procedures to represent and solve problems. Propose and solve problems using proportions, formulas and linear functions.				

			Measure and compare quantities using
			Measure and compare quantities using appropriate units, instruments and methods.
			1
			Apply the concepts and attributes of length,
Chamiata /nas OF			capacity, weight/mass, perimeter, area, volume,
Chemistry (pgs. 25-		MA 6 0 7 A 2h	time, temperature and angle measures in
41)	IL	MA.6-8.7.A.3b	practical situations. Select and use appropriate technology,
			instruments and formulas to solve problems,
			interpret results and communicate findings. Use
			concrete and graphic models and appropriate
			formulas to find perimeters, areas, surface areas
Chemistry (pgs. 25-			and volumes of two- and three-dimensional
41)	IL	MA.6-8.7.C.3b	regions.
,			Use algebraic concepts and procedures to
			represent and solve problems. Propose and
Chemistry (pgs. 25-			solve problems using proportions, formulas and
41)	IL	MA.6-8.8.D.3b	linear functions.
			Solve problems using comparison of quantities,
Physics and Math			ratios, proportions and percents. Apply ratios
(pgs. 43-63)	IL	MA.6-8.6.D.3	and proportions to solve practical problems.
			Use algebraic concepts and procedures to
			represent and solve problems. Solve problems
Physics and Math			using numeric, graphic or symbolic representations of variables, expressions,
(pgs. 43-63)	IL	MA.6-8.8.D.3a	equations and inequalities.
(pgs. 40-00)		W/A.0-0.0.D.3a	Use algebraic concepts and procedures to
			represent and solve problems. Propose and
Physics and Math			solve problems using proportions, formulas and
(pgs. 43-63)	IL	MA.6-8.8.D.3b	linear functions.
			Use algebraic concepts and procedures to
			represent and solve problems. Propose and
Rocket Activity (pgs.			solve problems using proportions, formulas and
69-75)	IL	MA.6-8.8.D.3b	linear functions.
		Pushing the Env	ralana
		1997 Mathema	
		Learning Stand	
Illinois Mathematics			
Grades 9-10			
Activity/Lesson	State	Standards	
			Measure and compare quantities using
			appropriate units, instruments and methods.
			Apply formulas in a wide variety of theoretical
			and practical real-world measurement
Llistom, of Assisting			applications involving perimeter, area, volume,
History of Aviation	₁₁	MA 0 10 7 A 4b	angle, time, temperature, mass, speed,
Propulsion (pgs. 5-9)	IL	MA.9-10.7.A.4b	distance, density and monetary values.

			lee
			Measure and compare quantities using
			appropriate units, instruments and methods.
			Apply formulas in a wide variety of theoretical
			and practical real-world measurement
			applications involving perimeter, area, volume,
Types of Engines (angle, time, temperature, mass, speed,
pgs. 11-23)	IL	MA.9-10.7.A.4b	distance, density and monetary values.
pge: 11 20)			Estimate measurements and determine
			acceptable levels of accuracy. Estimate and
			measure the magnitude and directions of
			physical quantities (e.g., velocity, force, slope)
T (F : /			using rulers, protractors and other scientific
Types of Engines (instruments including timers, calculators and
pgs. 11-23)	IL	MA.9-10.7.B.4	computers.
			Measure and compare quantities using
			appropriate units, instruments and methods.
			Apply formulas in a wide variety of theoretical
			and practical real-world measurement
			applications involving perimeter, area, volume,
Chemistry (pgs. 25-			angle, time, temperature, mass, speed,
41)	IL	MA.9-10.7.A.4b	distance, density and monetary values.
,			Solve problems using comparison of quantities,
			ratios, proportions and percents. Solve
			problems involving recipes or mixtures, financial
Physics and Math			calculations and geometric similarity using
(pgs. 43-63)	IL	MA.9-10.6.D.4	ratios, proportions and percents.
(pgs. 45-05)	IL .	IVIA.9-10.0.D.4	Measure and compare quantities using
			appropriate units, instruments and methods.
			Apply formulas in a wide variety of theoretical
			and practical real-world measurement
			applications involving perimeter, area, volume,
Physics and Math			angle, time, temperature, mass, speed,
(pgs. 43-63)	IL	MA.9-10.7.A.4b	distance, density and monetary values.
			Describe numerical relationships using variables
			and patterns. Represent mathematical patterns
Physics and Math			and describe their properties using variables
(pgs. 43-63)	IL	MA.9-10.8.A.4b	and mathematical symbols.
			Measure and compare quantities using
			appropriate units, instruments and methods.
			Apply formulas in a wide variety of theoretical
			and practical real-world measurement
			applications involving perimeter, area, volume,
Rocket Activity (pgs.			angle, time, temperature, mass, speed,
69-75)	IL	MA.9-10.7.A.4b	distance, density and monetary values.
09-10)	IL	IVIA.9-10.7.A.4D	uistance, ucrisity and monetary values.